TRAÇABILITÉ DES MESURES

NOTICE D'UTILISATION
USER MANUAL

Spy RF ModeM Wifi

10392

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I. INTRODUCTION

Congratulations – you have just bought a SPY RF Wifi ModeM. This modem doesn't need to be placed near the PC Server but can be connected to the WiFi network near the measuring points.

a) Equipment

- 1 SPY RF WiFi Modem
- 1 wall-mounting bracket
- 1 self-adhesive tape
- 1 CD
- 1 User Manual

b) Symbols

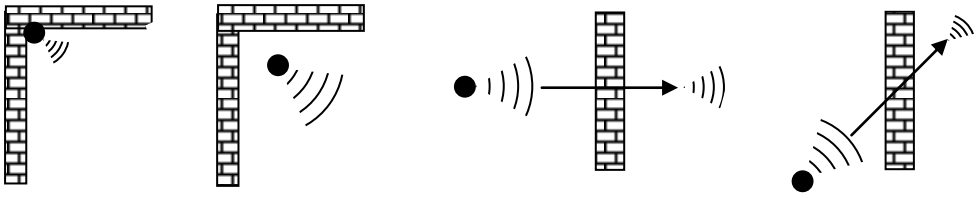
	RECYCLING: do not throw in a rubbish dump or in a domestic waste container. Comply with the current waste regulations.
	POWER SUPPLY: this device is powered by 9VDC-650mA from a 100-230 VAC power supply adaptor. Comply with the security and utilisation regulations of electric power. Use an electric installation complying with these regulations.
CE	**CE MARKING**: this equipment is certified to comply with the European regulations for electric security, inflammability, disturbing radiation emission and immunity to surrounding electric disturbances.
FC	**FCC ID: W45 09595** *This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation* *In accordance with FCC requirements, changes or modifications not expressly approved by JRI could void the user's authority to operate this product.* *NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense*

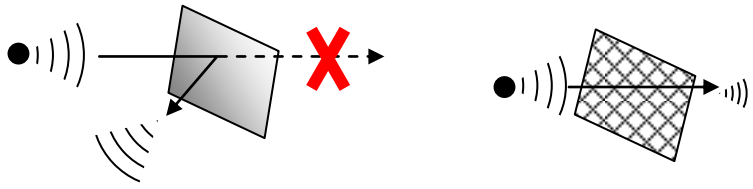
II. INSTALLATION RECOMMENDATIONS

The SPY RF is a recorder of physical parameters able to communicate wirelessly with Sirius operating software.
Wireless communication is based on the principle of radio frequency. As we are daily in contact with it (radio, TV, …) it is easy natural to think that it always works. This is true if basic rules on the positioning of the recorders are observed, because wireless transmission is susceptible to different kinds of disturbances.

a) Disturbance sources

- Physical obstacles (walls, ceilings, furniture, persons…) between the SPY RF ModeM and the SPY RF or near the antenna can cause interference.
- The thickness of the obstacles. The absorption is more important in diagonal than perpendicularly.
- Radio waves cannot pass through a solid metal wall. But a perforated metal wall allows the waves to pass through with attenuation.



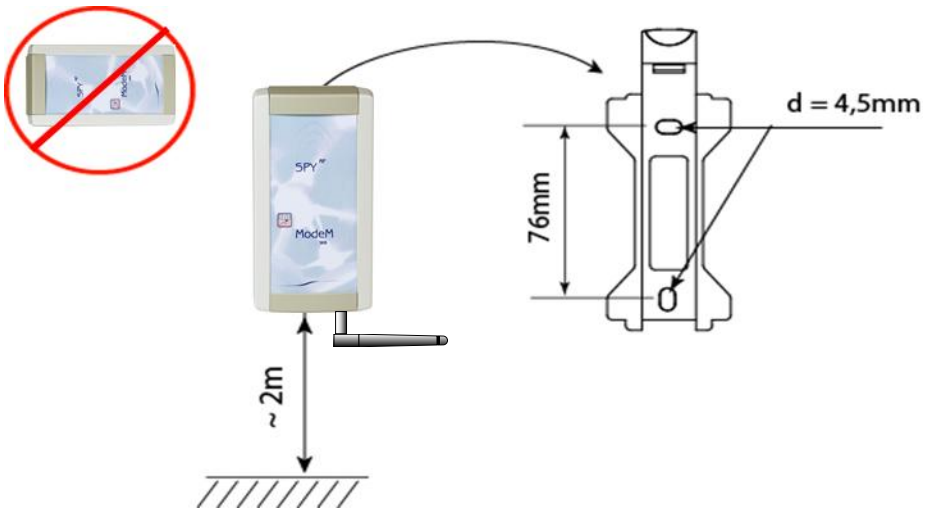


III. INSTALLATION

a) Installation recommendations

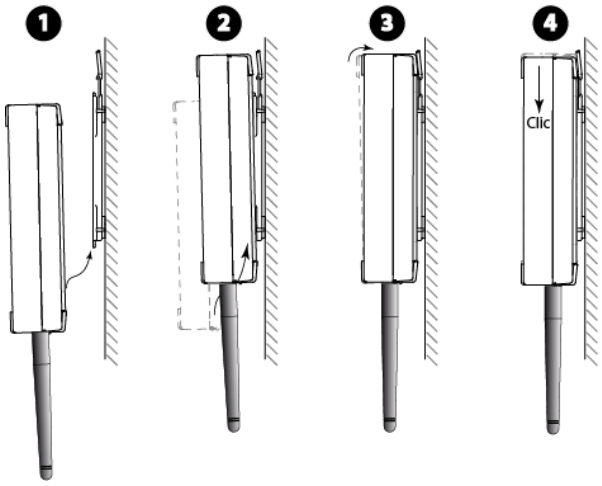
- Place the device at approx. 2 meters above the ground and 30 to 40 cm from the ceiling to avoid obstacles and passing persons.
- Place the ModeM SPY RF centrally among the SPY RF recorders.
- Try to place them within sight of each other.
- Make sure that the antenna jut out from the top of refrigerators, incubators, ovens, cold rooms etc.
- Do not place the SPY RF devices in a horizontal position.
- If you are still having problems you may find it helpful to use a SPYRF Relay (repeater) or to connect another SPY RF ModeM to the WiFi network.
-

b) Installation of the wall mounting bracket

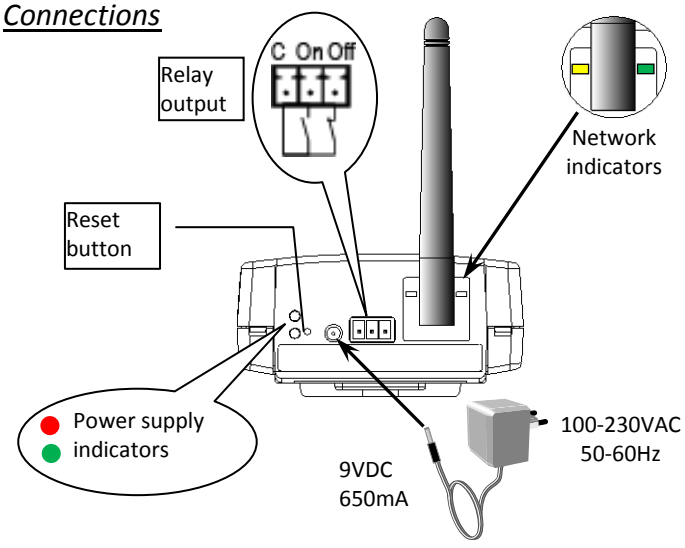


➢ Additional information

Installation



Connections



LED light symbols

- Power supply
  - 🔴🟢 Running on mains power supply
  - 🔴○ Running on battery – no mains power supply
- Network
  - 🟨 WiFi Network connection
  - 🟩 WiFi Network activity

IV. CHARACTERISTICS

Operating Range	0+40°C 0-90%HR non condensed
Storage Temperature	-40 + 85°C
Radio range (in open field)	1km
Radio Band	868MHz – 902 MHz and WiFi 802.11b
Power Transmission	25 / 500mW
Power supply	9V DC 650mA
Rechargeable Battery	NIMH 6V
Battery Life	From 4 to 6 hours
Dimensions	153 x 82 x 35mm
Relay Output	36V DC - 1A
CE ERM Conformity	EN 301 489 / EN 61000 / EN 61010 EN 55022 / EN 300 220

***supplied for the European market**

V. INSTALLATION OF THE SPY RF WIFI MODEM

Before we start, we need to define two "technical" terms:

- Temporary WiFi Network: an open WiFi network which will be used to configure the modem
- Destination WiFi Network: the WiFi Network to which the WiFi Modem should be connected and on which it should run once the installation has been completed.

Both networks can be generated alternately by the same source (for example: a WiFi router) or coexist in the same environment.

The Digi Modules of the modem are factory configured to be connected to an **open** WiFi network with the following settings:

- **SSID:** Connect
- **Authentication:** none (i.e. open)
- **Encryption:** none
- **Channel:** Auto (1, 6, 11 preferred)
- **DHCP server:** enabled.

This temporary open WiFi Network is necessary to set up the SPY RF WiFi ModeM and this throughout the whole installation process. Once the settings have been carried out the ModeM can be connected to the Destination WiFi Network

a) <u>Connecting to the mains</u>

Plug in the Modem:

- The red and green lights come on
- The green light flashes quickly and constantly: the is module active
- The yellow light flashes once then 3 times: the unit is scanning for a network
- The yellow light is solid: a compatible WiFi network has been detected and an IP address has been assigned: go to paragraph **c**.
- The yellow light flashes slowly: no WiFi network has been detected. If the open WiFi network hasn't been configured, go to paragraph **b.**

2 important steps should be taken into account when you install the WiFI Modem:

- First you need to establish a connection between the WiFi ModeM and the temporary WiFi Network
- Then you need to configure the WiFi ModeM with the settings of the Destination WiFi Network.

b) <u>Setting up a connection with the WiFi Module</u>

There are two possibilities depending on your current type of network:

- Infrastructure
- « Ad Hoc »

➢ Infrastructure

A network in Infrastructure mode is a network to which several devices are connected to each other via routers, switches, hubs, etc. This is the « traditional » configuration of an Ethernet network

- Make sure that the firewall on the network dosen't block the broadcast packets. If this is the case, then disable it during the installation.
- Configure your access point to set up an open WiFi network that can be detected by the WiFi Modem. The settings of an open WiFi Network are given above. This network can be disabled once the Modem has been configured.
- Once the temporary open network has been created, turn on the WiFi ModeM.
- Make sure that the WiFi ModeM finds the network (refer to paragrah c « Connecting to the mains » paragraph)
- Once the two devices have been connected to each other, move on to paragrah **d** " Checking of the network connection".

CAUTION: If several open WiFi networks coexist, the Spy RF WiFi ModeM will connect to the network with the highest intensity

➢ Ad Hoc

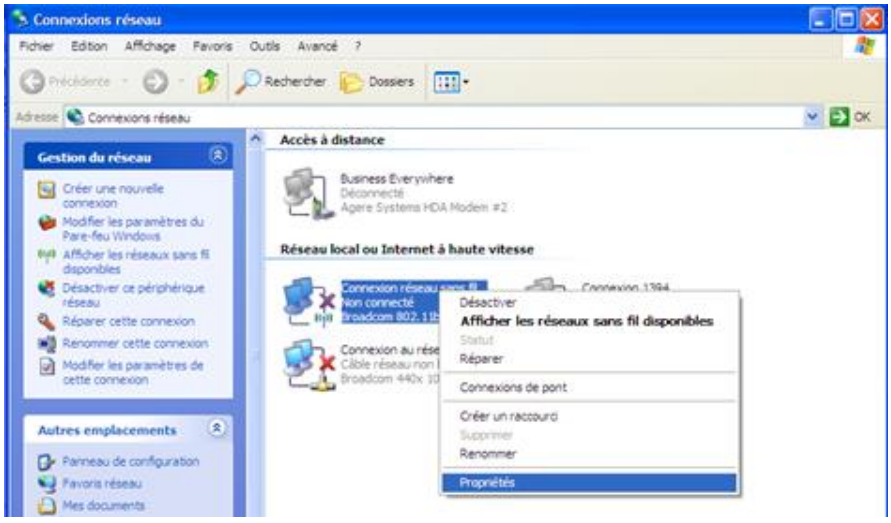
In this case only the Client PC and the Modem will use the WiFi Network.
The modem is connected directly to the client PC via a peer to-peer configured access point.

With a WIFI router:

- Set up the router as a « peer-to-peer » access point
- Configure the WiFi network generated by the access point in order to generate an open network such as defined above.
- Set the PC with a static IP address.

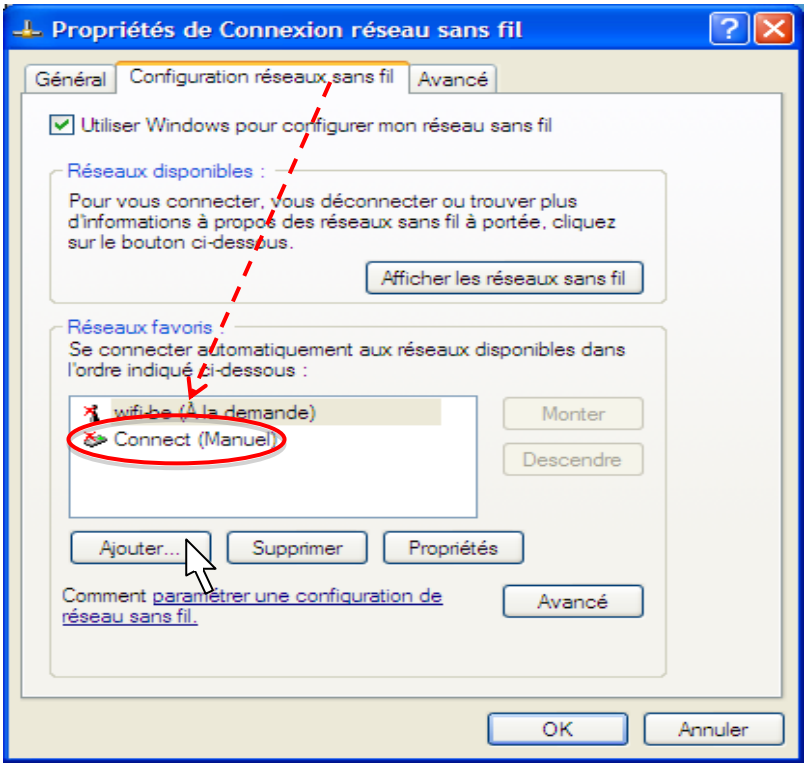
On a device equipped with a WiFi card:

- Open the network connections

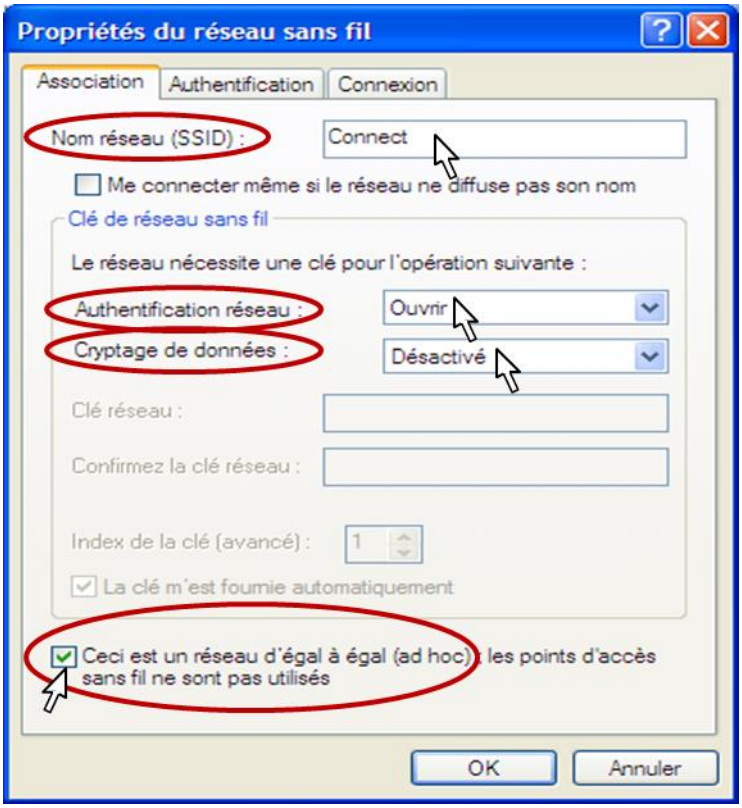


- Right click on « **Wireless Network Connexion** » and select « **Properties** »

- In the « Wireless Network Connection Properties » window, select the « **Wireless Network Configuration** »


Propriétés de Connexion réseau sans fil
Général
Configuration réseaux sans fil
Avancé
Utiliser Windows pour configurer mon réseau sans fil
Réseaux disponibles :
Pour vous connecter, vous déconnecter ou trouver plus d'informations à propos des réseaux sans fil à portée, cliquez sur le bouton ci-dessous.
Afficher les réseaux sans fil
Réseaux favoris
Se connecter automatiquement aux réseaux disponibles dans l'ordre indiqué ci-dessous :
wifi-bs (À la demande)
Connect (Manuel)
Monter
Descendre
Ajouter...
Supprimer
Propriétés
Comment paramétrer une configuration de réseau sans fil.
Avancé
OK
Annuler

- Select the « **Connect** » Network.
  If it already exists, the Modem will connect automatically ; click on « Properties »,
  If it doesn't exist, click on « **Add** » to create it
- In the « **Wireless Network Properties** » select :
  5. Network name SSID: **Connect or alternate**
  6. Authentification : **Open**
  7. Encryption: **None**
  8. Select **« This ia a peer-to peer (Ad hoc)** … »

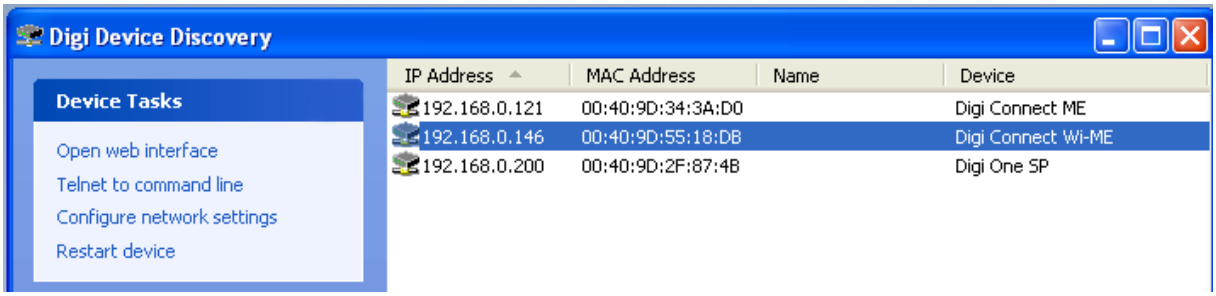

Propriétés du réseau sans fil
Association
Authentification
Connexion
Nom réseau (SSID) :
Connect
Me connecter même si le réseau ne diffuse pas son nom
Clé de réseau sans fil
Le réseau nécessite une clé pour l'opération suivante :
Authentification réseau :
Ouvrir
Cryptage de données :
Désactivé
Clé réseau :
Confirmez la clé réseau :
Index de la clé (avancé) :
1
La clé m'est fournie automatiquement
Ceci est un réseau d'égal à égal (ad hoc) ; les points d'accès sans fil ne sont pas utilisés
OK
Annuler

- Once this has been done switch on the WiFi Modem.

- Search « **Connect** » or alternate in the Wireless Network Connections and activate it.
- Make sure that the WiFi ModeM finds the network (refer to « Connection to the mains »)
- Once the two devices have been connected to each other, move on to the configuration step of the WiFi Modem.

c) Checking the Network connection

- Search the WiFi Modem by using the « Digi Device Discovery » tool available in the « Tools » directory on the CD .



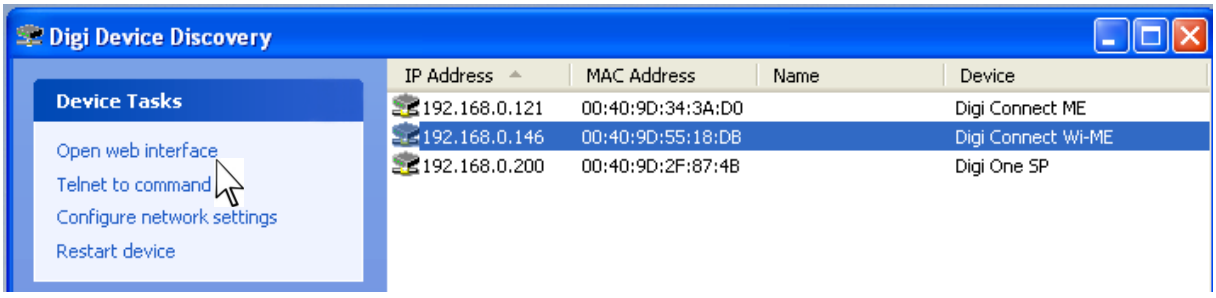
- Once detected, a line with « **Digi Connect WI-ME** » will appear.

CAUTION
-If the WiFi ModeM doesn't appear or if no « DigiConnect Wi ME » line appear, you should :
Unplug the Modem, then plug in again and click on « Refresh » once the connection has been established
- if it still doesn't appear, change the name of the « Access Point » into "Connect" to facilitate the operation and then repeat the process.

- If several ModeMs are connected at the same time, you can identify them by their MAC address (visible on the SPY RF label) and compare them with the values visible in the MAC address column.

d) Checking the software version of the SPY RF WiFi ModeM

In the below Digi Device Discovery window:



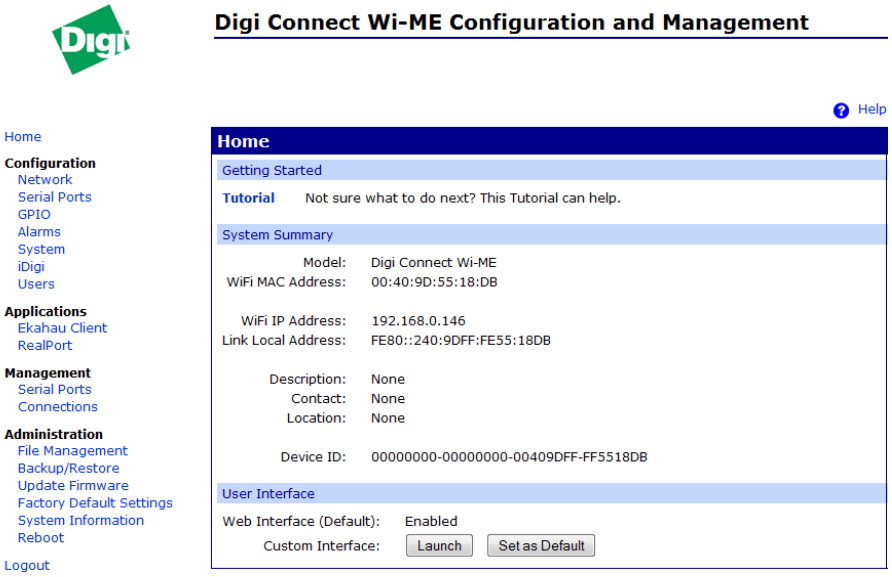
- Highlight the line corresponding to the WiFi Modem and double-click or click on « **Open web interface** » in the upper left corner of the window.

- The Login window will appear in your browser :

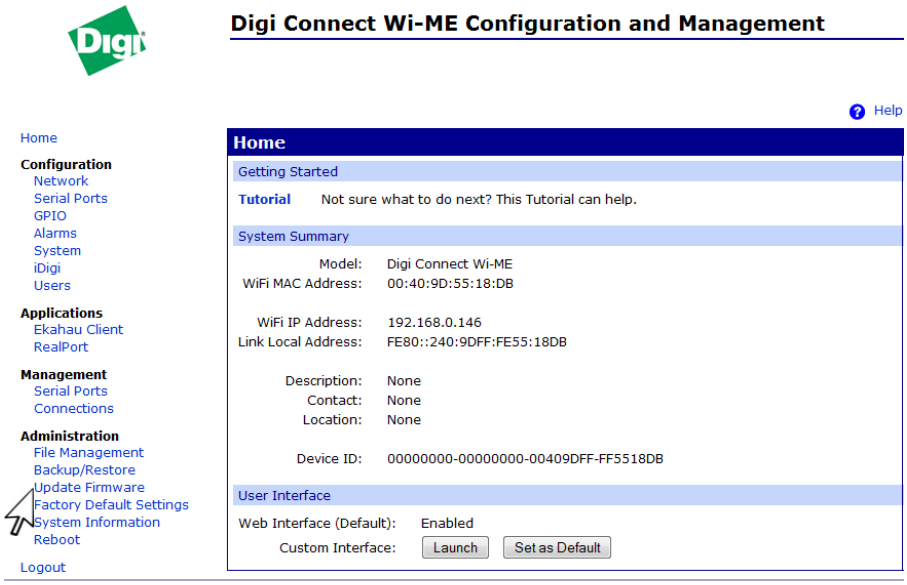
Digi Connect Wi-ME Configuration and Management
Help
Login
Welcome to the Configuration and Management interface of the Digi Connect Wi-ME.
Please specify the username and password to login to the web interface.
See the User Guide and documentation for more information on logging in or retrieving a lost password.
Username:
Password:
Login
Copyright © 1996-2011 Digi International Inc. All rights reserved.
www.digi.com

- Enter *Username* : **root** *Password* : **dbps**, then click « **Login** »

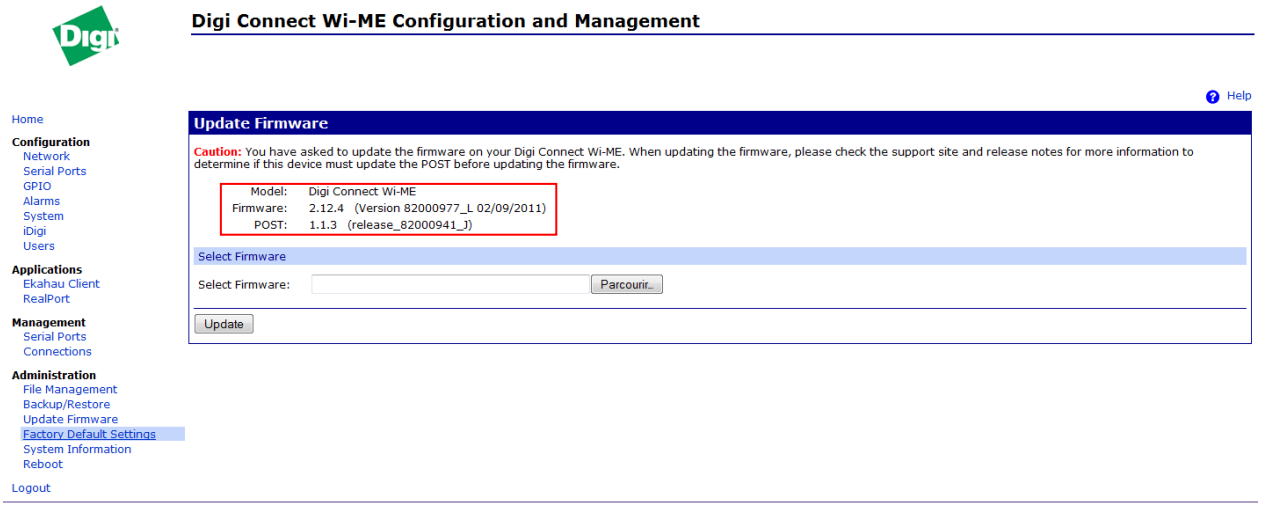
- The home page of the Digi Connect Wi-ME configuration and Management will appear:



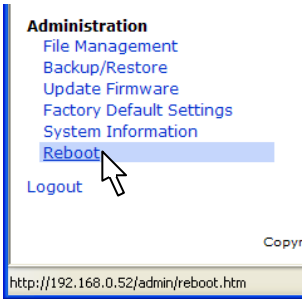
- Click on « **Update Firmware** ».



- This window will appear:

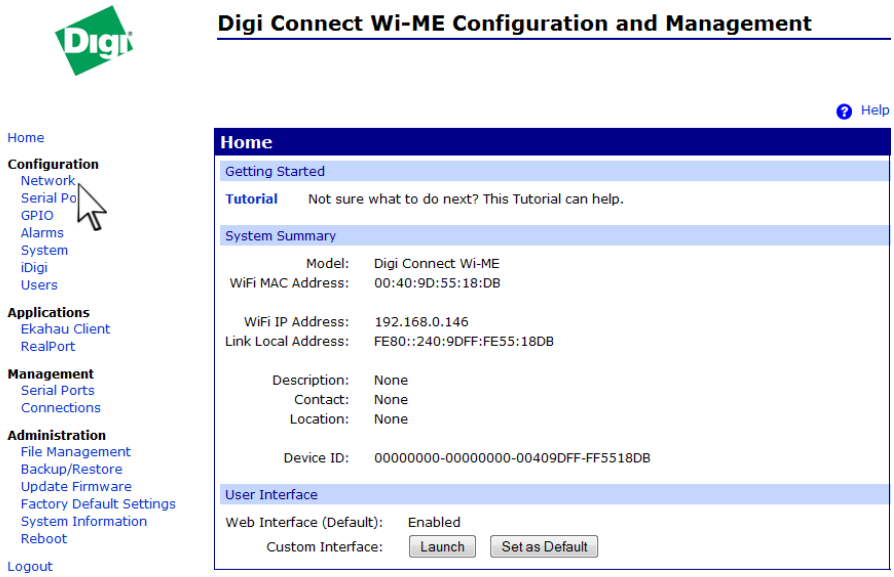


- Compare the POST and the FIRMWARE files with the files on the installation CD. Click on « **browse**» to search the updates. They can be found on the CD in the POST and FIRMEWARE files respectively.
- Update the « POST » first, then the « FIRMWARE »
- To apply, click on « **Update** »
- At last, select Reboot (Administration Menu/Reboot)

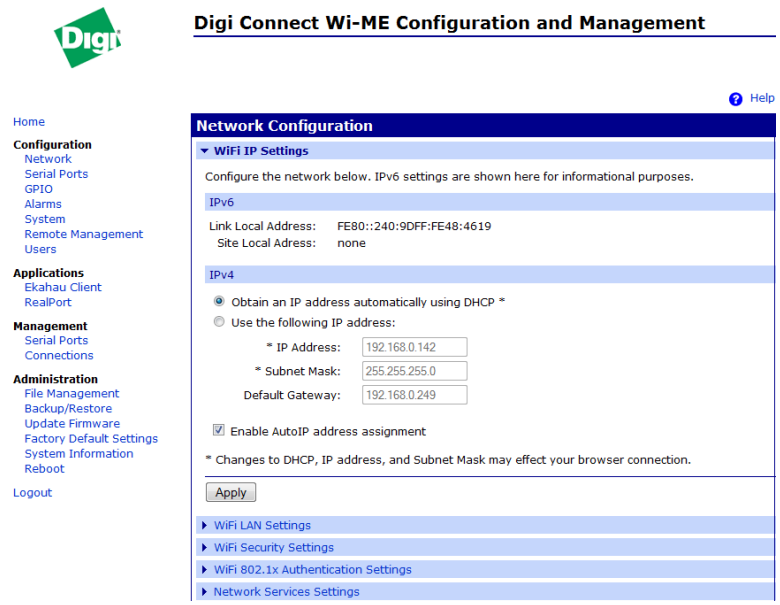


e) Configuration of the WiFI ModeM

- Log on once more to the SPY RF WiFi ModeM with Digi Discovery or its static IP address (depending on the configuration)
- Select « **Network** »



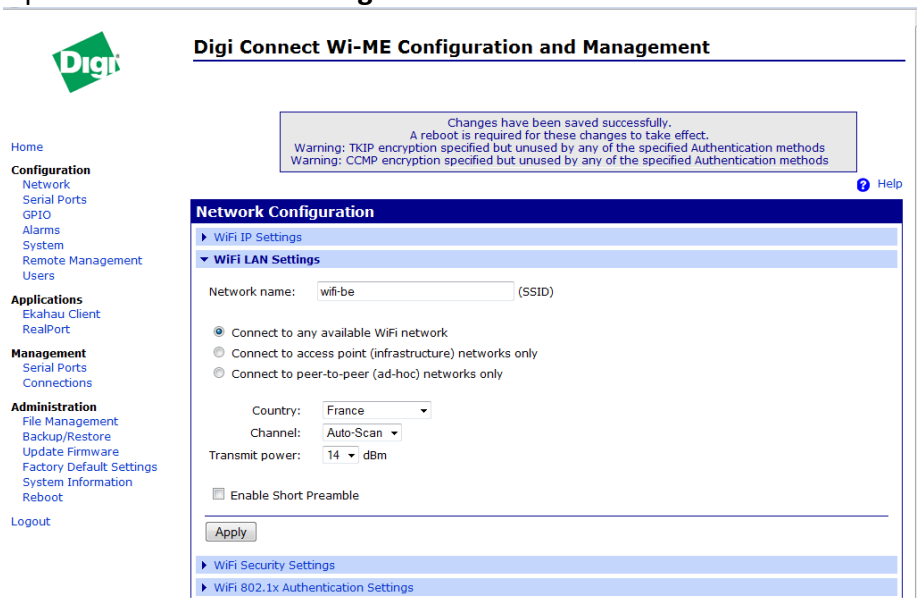
- The Network Configuration window will appear.



- Enter the WiFi IP settings in the IPv4 tab of the destination network. To operate optimally, the Modem WiFi must have static IP address. In static IP mode, fill in all the fields in the « IPv4 » tab and deselect « Enable AutoIP address assignment ».
- Then click on "**Apply**".

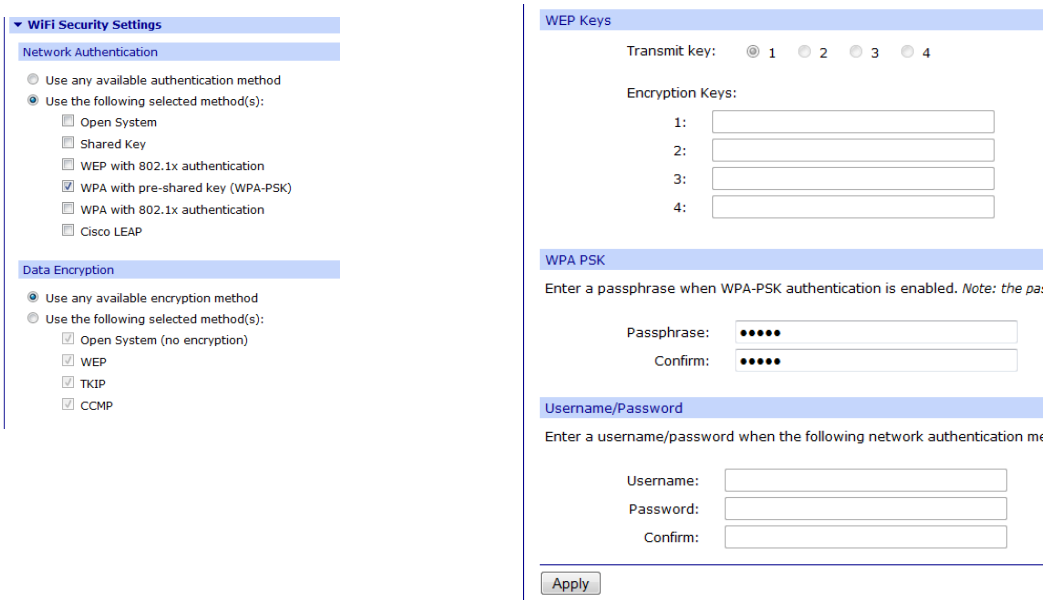
Nota : you need to reboot the module if you want to change the IP address. After reboot, the le DIGI configurator Digi will become available when entering the new IP address of the module.

- Open the « **Wifi LAN Settings** » tab.



- If the network has been modified (into Connect f. ex), enter the initial network name. Select « Connect to any available Wifi network », select the country of residence, then click « **Apply** » .

- Open the “Wifi Security Settings” tab



- Select the protection type of the Target Wifi Network (in most cases : « WPA with pre-shared key (WPA-PSK) »).
- Disable « Open system »
- **Do not** modify the « **Data Encryption** » tab except if you need to.
- Enter your password(s) in the dedicated fields depending on the security type of your network (« WEP Keys » if WEP protection, « WPA PSK » si WPA protection). Then click « Apply » .
- Click on « **Reboot** » to reboot the device.

f) Setting up a connection with Sirius

From this paragraph all manipulations should be carried out on the destination network. Disable the Open Connect network.

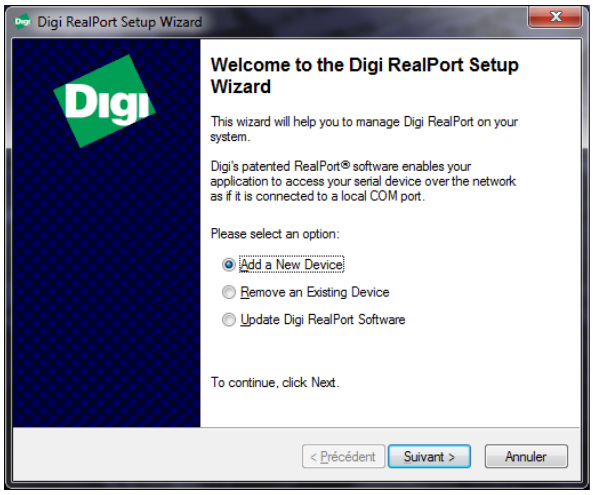
➢ Installation of the Digi Connect Wi-ME drivers

This installation should be repeated for each SPY RF WiFi Modem used on the network.

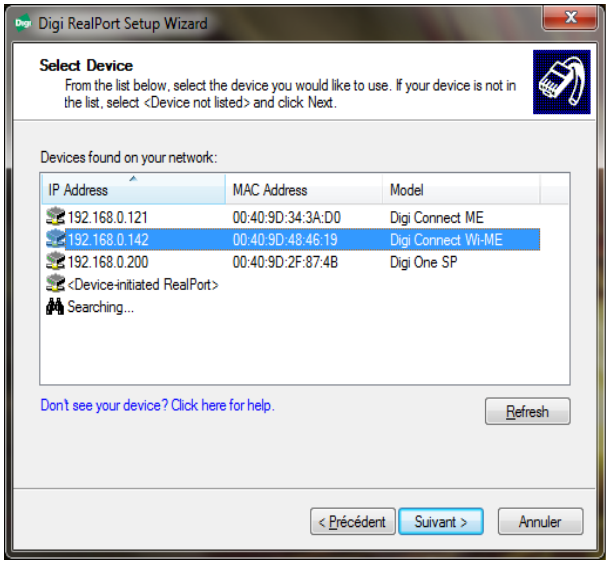
- Plug in the Modem.
- Insert the installation CD into the CD drive of the PC and run the setup (32 or 64-bit depending on the client OS) . The setup exe file is available in the « Driver Realport »/« Driver folder depending on the version of Windows » at the root of the CD.

In W7 and W8, if you are unable to launch the executable file, run the setup in "compatibility mode". To do this, right-click on the setup Icon and « *solve the compatibility issues* » then « *the software worked on previous versions of Windows* » and select the first choice on the list.

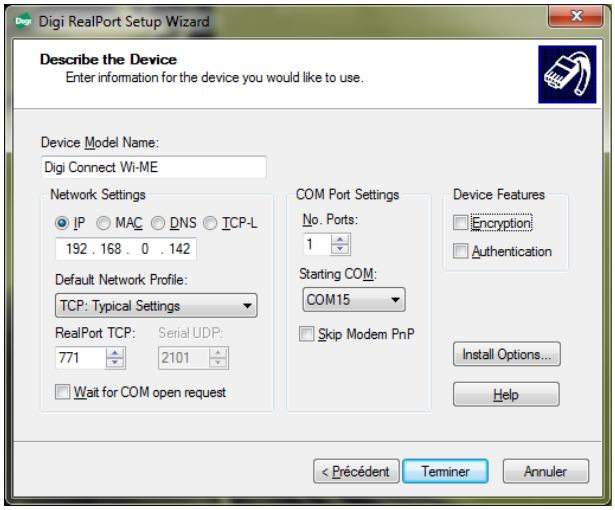
- Select « **Add a New Device** ».


Digi RealPort Setup Wizard
Welcome to the Digi RealPort Setup Wizard
This wizard will help you to manage Digi RealPort on your system.
Digi's patented RealPort® software enables your application to access your serial device over the network as if it is connected to a local COM port.
Please select an option:
Add a New Device
Remove an Existing Device
Update Digi RealPort Software
To continue, click Next.
< Précédent
Suivant >
Annuler

- Select the SPY RF WiFi ModeM you want to install (at this stage it is recommended to activate one modem at a time), then click on « **Next** ».
- If you cannot see the Modem, click « **Refresh** ».

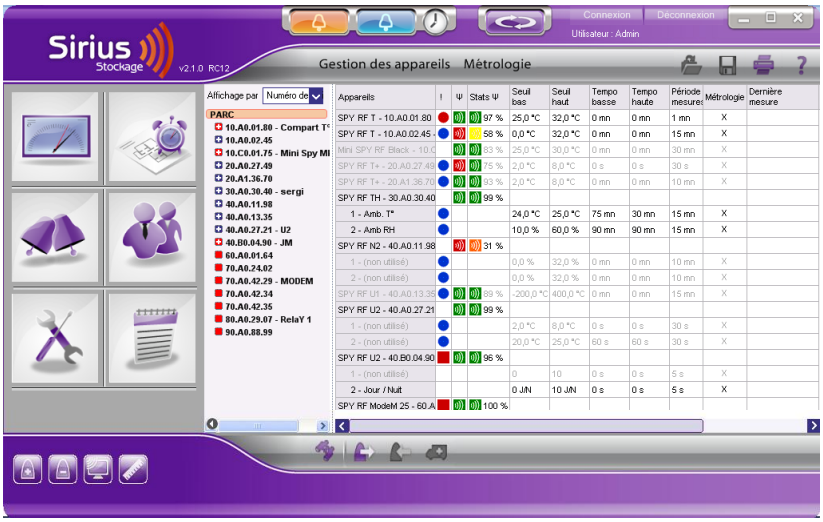


- Leave the fields « **No Ports** : » and « **starting com** » as they are.
- Make sure that the default RealPort TCP value is 771. If not, then modify it.
- Deselect « **Encryption** » and « **Authentification** ». Accept despite the warning message.
- At « Default Network Profile » select « TCP ; Typical Settings » if your network is a Local Area Network (LAN). If not, then choose « TCP : Less Overhead » for a Wide Area Network (WAN).



- Click on « **Apply** », and then « **Apply** ».

- Launch Sirius.



- The SPY RF Wifi ModeM should now appear in the list of devices. This may take approx. 10 seconds.
- If the SPY RF Wifi ModeM has not been detected by Sirius, relaunch the com. SIRIUS task.
- If the SPY RF Wifi ModeM is still not connected, restart the computer.
- If the SPY RF Wifi ModeM is still not connected then go to « Digi Device Discovery », reset the SPY RF WiFi Modem to factory default settings, and then repeat the procedure starting from chapter V.

VI. WARRANTY

JRI products carry a one year warranty and guarantee against defects in their components or workmanship.
During this period if any product supplied by the Company proves on inspection to be defective, the Company will at its own option replace the same or refund to the Buyer the price of the product.
In no circumstances will JRI' liability exceed the price of the product paid by the buyer or the cost of replacement.
JRI shall not in any event be liable to the Buyer for any indirect or consequential loss or damage costs or expenses whatsoever which might arise out of or in connection with the supply of the product or its consequent use.
Consequently, the products warrantee and guarantee specified above, does not cover damage caused by fair wear and tear, abnormal storage conditions, incorrect use, accidental misuse, abuse, neglect, misapplication or modification, or use with non-JRI' hardware/software. No warranty of fitness for a particular purpose is offered and the user assumes the entire risk of using the product.
In line with our policy of continuous development, we reserve the right to amend our product specification without prior notice.

VII. MAINTENANCE CONTRACT

How to optimize your radio frequency installation?

RF measuring systems communicate by radio frequency. However, there may be several factors that can modify the radio ways already defined, such as moving from a building, adding walls, … Radio frequency requires thus a periodical follow up performed by specialists.

That's why JRI has created maintenance contracts. We bring you a global solution which makes your maintenance easier. This overall service offer includes maintenance and also metrological services, which ensure you that your system is fully performant.

You won't worry about your devices maintenance anymore !

With this maintenance contract you will benefit for a minimal period of 2 years from the following advantages:

- material verification once or twice a year
- warranty extension
- telemaintenance
- telephone assistance
- material replacement on site or by return to our production unit
- metrological certificates: verification of measurement accuracy
- access to new software versions and updates
- on-site intervention within 3 open days after problem identification by our experts

VIII. ENVIRONMENT PROTECTION

JRI recommends to our customers to throw away their measuring and recording devices which are unserviceable and/or beyond repair in a way that is appropriate to environment protection. Insofar as the production of waste cannot be avoided, it is best to re-use them by proceeding with adapted recycling depending on the material used and considering the environment protection.

RoHS Directive

The ROHS European Directive rules and limits the presence of hazardous substances in electrical and electronic equipments (EEE).

In the article 2, the scope of this Directive excludes "9. Monitoring and Control Instruments" and our products are part of this category.

However, our company has decided to apply the whole dispositions of this Directive for all our new electronic devices which will comply to this 2002/95/CE Directive.